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| Programme: Statistics (National Diploma) | | | |
| Course: Introduction to Computer Technologies | Course Code: COM 101 | Total Hours: | 60 |
| Year: 1 Semester: 1 | Pre-requisite: | Theoretical: | 2 hours /week |
| | | Practical: | 2 hours /week |
| Goal: This course is designed to enable students to acquire a basic knowledge of computers | | | |
| General Objectives: On completion of this course the diplomat, should be able to: | | | |
| <ol style="list-style-type: none"> 1. Understand the history, classification and impact of computers. 2. Know the concept of computer hardware 3. Know the concept of computer software. 4. Understand computer data processing systems. 5 Know the procedures for computer and data preparation method. 6. Understand security and safety procedures within a computer environment. 7. Understand the concept of a computer network 8. Understand the use of the internet. | | | |

| Theoretical Content | | | | Practical Content | | |
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| Week | Specific Learning Outcomes | Teacher's activities | Resources | Specific Learning Outcomes | Teacher's activities | Resources |
| General Objective 1 (COM 101): Understand the history, classification and impact of computers. | | | | | | |
| 1 | 1.1 Define the computer 1.2 Describe the development of computers, in particular abacas, Pascal, Babbage, Hollerith and ENIAC. 1.3 Classify computers according to generations from 1st - 5th generation (any subsequent generation) | Define computer Trace the history of computer. Classify the computer according to generations | White Board. PC loaded with Power point and connected to OHP | Be able to classify computer systems. | Guide students to classify computer systems | Networked PCs loaded with software packages. |
| 2 | 1.4 Distinguish between analogue, digital, and hybrid computers 1.5 Explains the social implication of computers on society in particular privacies and quality of life. 1.6 List the benefits of computers to the society. | Distinguish between types and classes of computers. Highlight the implications of computers to the society. Outline the benefit of computer to the society. | White Board. PC loaded with Power point and connected to OHP | Be able to classify computer systems. | Guide students to classify computer systems | Networked PCs loaded with software packages. |
| General Objective 2 (COM 101): Know the concept of computer hardware | | | | | | |
| 3 | 2.1 Describe computer hardware configuration. 2.2 List some input and output units 2.3 Describe the function of the out unit. | Discuss the meaning of hardware. Discuss the various components and functions of various hardware units. Discuss computer software programming languages and differentiate between the levels. | White Board. PC loaded with Power point and connected to OHP | Be able to Identify the various components of a computer system | Guide the students on how to identify the various components of a computer system | A DEMO PC showing its components |
| 4 | 2.4 Describe the function of C.P.U. 2.5 List some auxiliary Units. | Discuss the various components and functions of various hardware units. Discuss computer | White Board. PC loaded with Power point and connected to OHP | Be able to Identify the various components of a computer system | Guide the students on how to identify the various components of a computer system | A DEMO PC showing its components |

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| | 2.6 Describe the function of the auxiliary memory 2.7 Define bits, byte, nibble, and word and storage size. | software programming languages and differentiate between the levels. | | | | |
| General Objective 3 (COM 101): Know the concept of computer software. | | | | | | |
| 5 | 3.1 Explain software and its various types 3.2 Distinguish between the low - level and high - level languages. 3.3 Explain source and object programmes. | Discuss software and its various types. Explain computer packages and its various types. | White Board. PC loaded with Power point and connected to OHP | Be able to load computer packages on computer system | Demonstrate how to load various computer packages on computer systems | Networked PCs loaded with different computer packages |
| 6 | 3.4 Define a translator. 3.5 Explain types of translators: assembler, compiler, and interpreter. 3.6 Explain the use of package programs. | Discuss software and its various types. Explain computer packages and its various types. | White Board. PC loaded with Power point and connected to OHP | Be able to load computer packages on computer system | Demonstrate how to load various computer packages on computer systems | Networked PCs loaded with different computer packages |
| General Objective 4 (COM 101): Understand computer data processing systems. | | | | | | |
| 7 | 4.1 Explain different processing modes. | Explain offline and online concepts Define batch processing, real time, time sharing and distributed processing Differentiate between batch processing, real time processing, time-sharing and distributed processing system. | White Board. PC loaded with Power point and connected to OHP | Be able to recognize life problems requiring the application of the various modes | Guide the students on how to identify real life problems requiring the various data processing techniques | Networked PCs loaded with different computer packages |
| General Objective 5 (COM 101): Know the procedures for computer and data preparation method. | | | | | | |
| 8 | 5.1 Be able to explain how to operate a computer system | Discuss the principles and procedures of operating the computer system, the fix up, start up and shut-down systems | White Board. PC loaded with Power point and connected to OHP Diskettes | Be able to boot and shut down computer system Format diskettes | Guide the students on how to operate the computer. Show different storage media to students | Networked PCs and storage media such as diskette. |
| 9 | 5.2 Understand the initialization and formatting of storage media. | Discuss initialization and formatting of storage devices such as disks and diskettes | White Board. PC loaded with Power point and connected to OHP Diskettes | Be able to boot and shut down computer system Format diskettes | Guide the students on how to operate the computer. Show different storage media to students | Networked PCs and storage media such as diskette. |
| General Objective 6 (COM 101): Understand security and safety procedures within a computer environment. | | | | | | |
| 10 | 6.1 Understand data control techniques, operating procedure of a computer installation, safety regulation in computer installation, method of preventing hazards such as fire, flooding and sabotage | Explain data control techniques. Describe standard operating procedures of a computer installation. | White Board PC loaded with relevant software packages and connected to OHP | Be able to formulate passwords. | Guide students on how to formulate simple password that they could easily remember | Networked PCs and storage media such as diskette. |

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| | | <p>Explain the need for computer room security.</p> <p>Explain computer system auditing</p> <p>Explain methods of preventing hazards fire, flooding sabotage etc.</p> | | | | |
| 11 | 6.2 Understand security methods in computer installation and the need for users passwords | <p>Describe file security methods in computer installations.</p> <p>Explain the need for file security in computer installation.</p> <p>Explain the user passwords and user name.</p> | <p>White Board</p> <p>PC loaded with relevant software packages and connected to OHP</p> | Be able to formulate passwords. | Guide students on how to formulate simple password that they could easily remember | Networked PCs and storage media such as diskette. |
| General Objective 7 (COM 101): Understand the concept of a computer network | | | | | | |
| 12 | <p>7.1 Define and explain network,</p> <p>7.2 Describe different types of network organization such as star, ring and bus.</p> | <p>Define computer network.</p> <p>Explain different types of network organization such as star, ring, bus etc.</p> | <p>White Board</p> <p>PC loaded with power point and connected to OHP</p> | <p>Be able to identify various computer topologies</p> <p>Find out different organizations using the different topologies.</p> | Guide the students on how to identify various network topologies. | Networked PCs and storage media such as diskette. |
| 13 | 7.3 Explain LAN and WAN. | Describe different types of network: LAN, WAN | <p>White Board</p> <p>PC loaded with power point and connected to OHP</p> | <p>Be able to identify various computer topologies</p> <p>Find out different organizations using the different topologies.</p> | Guide the students on how to identify various network topologies. | Networked PCs and storage media such as diskette. |
| General Objective 8 (COM 101): Understand the use of the internet | | | | | | |
| 14 | <p>8.1 Define internet and describe its resources</p> <p>8.2 Explain the processes involved in searching the internet for materials.</p> | <p>Define internet</p> <p>Describe resources of internet</p> <p>Explain the processes involved in browsing and searching the internet.</p> <p>Explain the meaning of ISP.</p> | <p>White Board.</p> <p>PC loaded with power point and internet browser and connected to OHP</p> | Be able to Search for materials on the internet. | Guide students on how to search for materials on the internet. | Networked PCs connected to the internet. |
| 15 | 8.3 Explain the concept of E-mail | <p>Explain the concept of e-mail address.</p> <p>Describe the processes of acquiring an e-mail address.</p> <p>Describe the process of sending and receiving an e-mail.</p> | <p>White Board.</p> <p>PC loaded with power point and internet browser and connected to OHP</p> | Compose and send E-mail. | Demonstrate how to compose and send E-mail. | Networked PCs connected to the internet. |

Assessment: Give details of assignments to be used: Coursework/ Assignments %; Course test %; Practical %; Projects %; Examination %

| Type of Assessment | Purpose and Nature of Assessment (COM 101) | Weighting (%) |
|---------------------------|---|----------------------|
| Examination | Final Examination (written) to assess knowledge and understanding | 60 |
| Test | At least 2 progress tests for feed back. | 20 |
| Practical | At least 5 home works to be assessed by the teacher | 20 |
| Total | | 100 |

Recommended Textbooks & References: